DEVELOPMENT SERVICES DEPARTMENT
ENVIRONMENTAL COORDINATOR
450 110th Ave NE., P.O. BOX 90012
BELLEVUE, WA 98009-9012

OPTIONAL DETERMINATION OF NON-SIGNIFICANCE (DNS) NOTICE MATERIALS

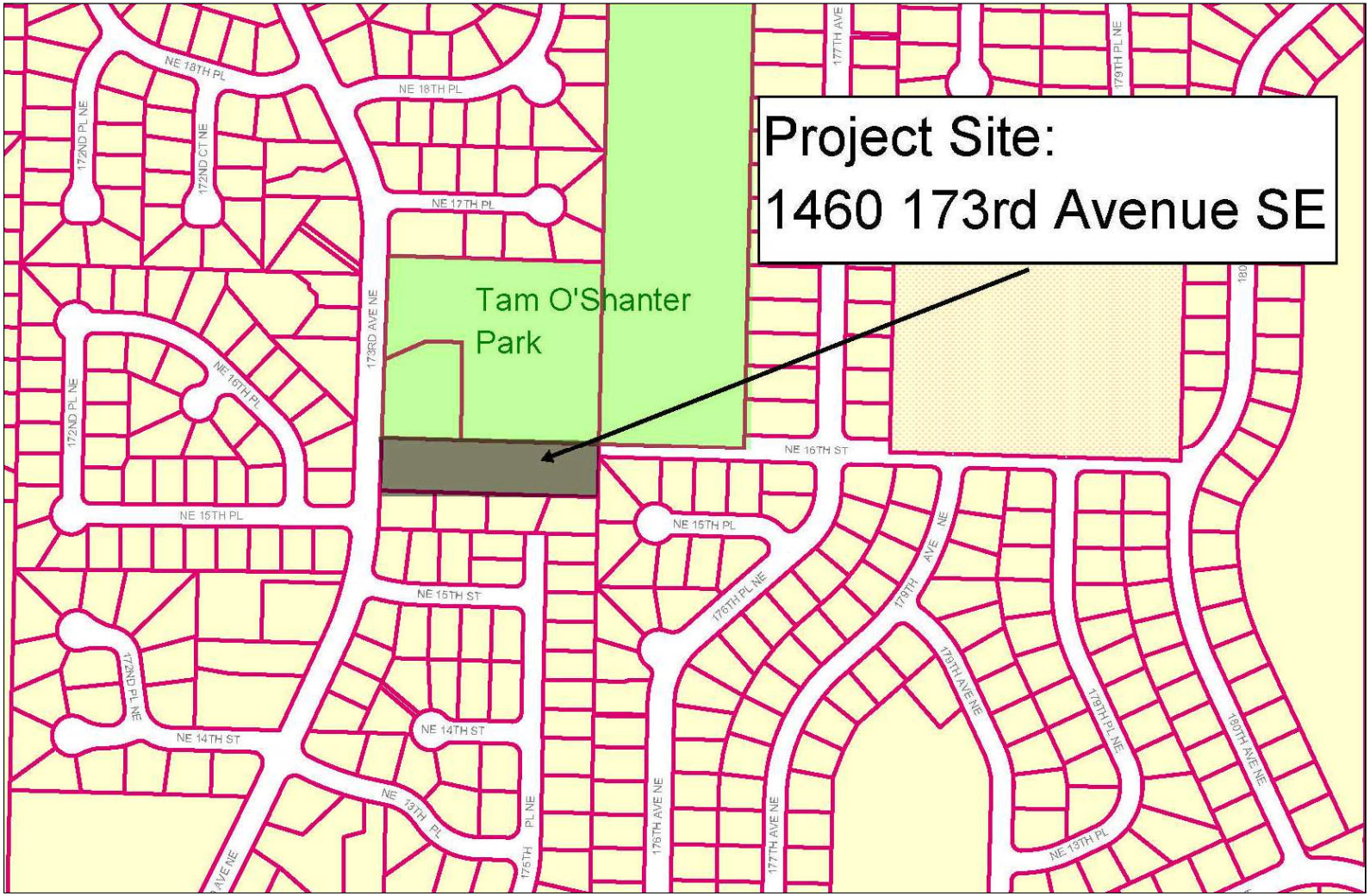
The attached materials are being sent to you pursuant to the requirements for the Optional DNS Process (WAC 197-11-355). A DNS on the attached proposal is likely. This may be the only opportunity to comment on environmental impacts of the proposal. Mitigation measures from standard codes will apply. Project review may require mitigation regardless of whether an EIS is prepared. A copy of the subsequent threshold determination for this proposal may be obtained upon request.

File No.	12-127214-LO and 12-113590-LN
Project Name/Address:	Lee Short Plat 1406 173rd Avenue NE
Planner:	Reilly Pittman
Phone Number:	425-452-4350
Minimum Comment Period:	**November 22, 2012**

Materials included in this Notice:

- ☒ Blue Bulletin
- ☒ Checklist
- ☒ Vicinity Map
- ☒ Plans
- ☐ Other:

Lee Short Plat
File Number: 12-127214-LO and 12-113590-LN



SEPA Checklist reviewed by Reilly Pittman on 10/31/12

City of Bellevue Submittal Requirements | **27a**

ENVIRONMENTAL CHECKLIST

If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.

BACKGROUND INFORMATION

Property Owner: ***Hock Lee***

Proponent:

Contact Person: ***David Black***
(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: ***D. Mitchell Homes, Inc.***
PO Box 805
Bothell, WA 98041-0805
Phone: ***(425) 424-9757***

Proposal Title: ***Viewpoint Estates***

Proposal Location: ***1460 173rd Ave NE***
(Street address and nearest cross street or intersection) Provide a legal description if available.

Please attach an 8 ½" x 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature:

2 lot short plat

1. General description: ***ViewPoint Estates 2-lot Short Plat***

2. Acreage of site: ***1.34***

3. Number of dwelling units/buildings to be demolished: ***1***

4. Number of dwelling units/buildings to be constructed: ***2***

5. Square footage of buildings to be demolished: ***1,700± sq-ft***

6. Square footage of buildings to be constructed: ***5,915± sq-ft***

7. Quantity of earth movement (in cubic yards): ***200± cu-yds***

8. Proposed land use: ***Single Family Residential***

9. Design features, including building height, number of stories and proposed exterior materials:

10. Other

RP

Estimated date of completion of the proposal or timing of phasing:

Construct late winter/spring of 2013

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Construction of 2 residences

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

A Critical Area Permit also required for subject site due to steep slope buffer encroachment to construct the houses. Besides steep slopes exceeding 40%, there is a Type O Seasonal Stream, and Category II Wetlands with buffers onsite. We therefore have geotech reports and stream/wetland reports. Also have arborist tree inventory report.

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

None Known

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

Approval of engineering plans by City of Bellevue

Please provide one or more of the following exhibits, if applicable to your proposal.
(Please check appropriate box(es) for exhibits submitted with your proposal):

- ☐ Land Use Reclassification (rezone) Map of existing and proposed zoning
- ☒ Preliminary Plat or Planned Unit Development
  - Preliminary plat map
- ☐ Clearing & Grading Permit
  - Plan of existing and proposed grading
  - Development plans
- ☐ Building Permit (or Design Review)
  - Site plan
  - Clearing & grading plan
- ☐ Shoreline Management Permit
  - Site plan

A. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site: ☐ Flat ☐Rolling ☒Hilly ☐Steep slopes ☐Mountains ☐Other

b. What is the steepest slope on the site (approximate percent slope)?

55±%

c. What general types of soil are found on the site (for example, clay, sand, gravel, peat, and muck)?

If you know the classification of agricultural soils, specify them and note any prime farmland.

Dense, siltly sand

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Per the Geotech report, the site is stable if drainage is controlled

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

100± cu-yd cut, 100± cu-yd fill

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, some erosion will occur during construction, erosion will be controlled.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

About 20%

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

The standard erosion control BMP's will be employed, together with a surface water collection drain across the top of the steep slope that will discharge into the City's storm conveyance system

2. AIR

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Exhaust from construction equipment during construction. Automobile exhaust after construction.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None Known.

c. Proposed measures to reduce or control emissions or other impacts to the air, if any:

Construction equipment will meet current emission standards; dust control will be provided during construction.

3. WATER

a. Surface

(1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide

The stream is an approximately 437-foot long open section which flows across the southern portion of Tam O'Shanter Park to the north of the project site. The stream starts from the outlet of a public storm drainage pipe and re-enters the public storm system at the eastern portion of the project site. There is no upstream connection to a fish bearing stream. Down stream, the public storm system eventually empties to Lake Sammamish. The submitted stream report has typed this stream as a Type-O.

names. If appropriate, state what stream or river it flows into.

An unnamed Type O stream runs adjacent to the north boundary of the site

(2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If Yes, please describe and attach available plans.

Yes, construction necessary within 200 feet but the 25' buffer requirement (to top of slope) will not be disturbed. See Critical Area Permit for all details.

(3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None proposed.

(4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No

(5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

N/a

(6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

b. Ground

(1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description.

No

(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

NA

c. Water Runoff (Including storm water)

(1) Describe the source of runoff (including storm water) and method of collection and disposal, any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater runoff will be collected from roofs and dispersed onsite. Direct discharge into City storm is not feasible on this site.

(2) Could waste materials enter ground or surface waters? If so, generally describe.

Generally no, but small amounts of pollutants could enter the adjacent stream

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Dispersion and a tightline conveyance pipe to the bottom of the slope

4. Plants

a. Check or circle types of vegetation found on the site:

☒ deciduous tree: alder, maple, aspen, other

☒ evergreen tree: fir, cedar, pine, other

☒ shrubs

☒ grass

☐ pasture

☐ crop or grain

☐ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other

☒ water plants: water lily, eelgrass, milfoil, other ***(in existing R/D pond)***

☐ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

All vegetation will be removed in roadway, yards utility construction areas.

c. List threatened or endangered species known to be on or near the site.

None known.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The future houses will be landscaped

Mitigation planting for modification to slope buffer and habitat impacts from tree removal.

5. ANIMALS

a. Check or circle any birds and animals which have been observed on or near the site or are known to be on or near the site: ***unknown***

☒ Birds: hawk, heron, eagle, songbirds, other:

☐ Mammals: deer, bear, elk, beaver, other:

☐ Fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

None known

c. Is the site part of a migration route? If so, explain.

None known

d. Proposed measures to preserve or enhance wildlife, if any:

Open space will be preserved in Native Growth Protection Areas and Retained Vegetation Areas along the steep slopes and wetland buffers

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy need? Describe whether it will be used for heating, manufacturing, etc.

Electricity and natural gas will be used for heating future homes.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of the proposal? List other proposed measures to reduce or control energy impacts, if any:

The new home construction would conform to the most recent UBC and the Washington State energy codes.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

(1) Describe special emergency services that might be required. ***None known***

(2) Proposed measures to reduce or control environmental health hazards, if any. ***None known***

b. Noise

(1) What types of noise exist in the area which may affect your project (for example, traffic, equipment, operation, other)?

None known

(2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Construction noises would exist during the building of the roads and homes. These

noises would occur generally between 7:30 am – 5:00 pm, Monday through Saturday or as allowed by City code. Once construction is complete, then noise would be generated by the normal course of action of a residential subdivision.

noise regulated by BCC 9.18

(3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

There is a park on the north, and single family residential on south, east and west

b. Has the site been used for agriculture? If so, describe.

Probably not

c. Describe any structures on the site.

An existing single family residence will be removed and replaced.

d. Will any structures be demolished? If so, what?

An existing single family residence will be removed and replaced.

e. What is the current zoning classification of the site?

R-3.5

f. What is the current comprehensive plan designation of the site?

SF-M

g. If applicable, what is the current shoreline master program designation of the site?

Unknown

N/A

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

Yes, as stated previously, site contains steep slopes over 40%, Type 0 seasonal stream (mainly offsite to north with buffer area encroaching onto property), and a small category 2 wetland at NE corner. See Critical Area Permit submittal items for good reference.

i. Approximately how many people would reside or work in the completed project?

Based upon "The 1991 Growth Report" prepared by King County, the community is experiencing an average of 2.97 people per dwelling unit. Therefore, the completed project might house 6 people.

j. Approximately how many people would the completed project displace?

About 3

k. Proposed measures to avoid or reduce displacement impacts, if any:

None

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Proposed density is compatible with the R3.5 zone.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Two single family detached. Middle income.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

One

c. Proposed measures to reduce or control housing impacts, if any:

None

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Two story homes.

b. What views in the immediate vicinity would be altered or obstructed?

None.

c. Proposed measures to reduce or control aesthetic impacts, if any:

None.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Light from windows of homes.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None

d. Proposed measures to reduce or control light or glare impacts, if any:

None

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Tam O'Shanter Park

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No.

b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

None.

c. Proposed measures to reduce or control impacts, if any:

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

173rd Avenue NE provides access to the site

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

About ½ mile to NE 24th

c. How many parking spaces would be completed project have? How many would the project eliminate?

The completed project would create 2 parking spaces per new single family dwelling.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not Including driveways? If so, generally describe (indicate whether public or private).

New roads will be required to serve the development

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

20 vehicular trips per day. Peak volumes would occur during AM & PM commute times.

g. Proposed measures to reduce or control transportation impacts, if any:

Traffic mitigation fees to be paid by development.

15. Public Services

a. Would the project result in an increased need for the public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

There will be an increased need for all public services due to 2 new single family homes.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Traffic and school mitigation fees will be paid, increased tax base associated with 5 new homes.

16. Utilities

a. Check utilities currently available at the site: ☒electricity, ☒natural gas, ☒water, ☒refuse service, ☒telephone, ☒sanitary sewer, ☐septic system, ☒other. ***Cable***

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electricity, gas, water, telephone, and cable TV.

Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

SEPA original by Encompass
Modified slightly by Duffy Ellis for CAP submit.

Signature..... Duffy Ellis .....

Digitally signed by Duffy Ellis
DN: cn=Duffy Ellis, o=VeriSign, Inc., ou=Digital ID Class 1 - Microsoft Full Service, email=duffy@cesolutions.us
Reason: I attest to the accuracy and integrity of this document
Location: Seattle, WA
Date: 2012.10.16 10:40:06 -07'00'

Date Submitted.....

RP

Wetland Resources, Inc.

Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E.
Suite 106
Everett, Washington 98208
(425) 337-3174
Fax (425) 337-3045

CRITICAL AREA STUDY

D. MITCHELL HOMES, INC.—173RD AVE NE

Wetland Resources, Inc. Project #11123

Prepared By:

Wetland Resources, Inc.
9505 19th Ave SE, Suite 106
Everett, WA 98208
(425) 337-3174

For:

D. Mitchell Homes, Inc.
Dave M. Black
PO Box 805
Bothell, WA 98041

March 5, 2012

Table of Contents

Attachments

- Wetland Rating Form for Western Washington
- Field Data Sheet
- Critical Area Study Map

Introduction

The subject property is located at 1460 173rd Ave NE in the city of Bellevue, Washington (a portion of Section 2, Township 27N, Range 5E, W.M.). Land use in the area is predominantly residential. *Wetland Resources* visited the project area in October of 2011, to locate jurisdictional wetlands and streams in the vicinity of a proposed two-lot short plat development on the subject site. The Washington State Wetlands Identification and Delineation Manual (Washington State Department of Ecology Publication #96-94, March 1997) was used to identify wetlands. The City of Bellevue Municipal Code (BMC) 20.25H was used to determine critical area classifications and protection requirements. WRI identified three critical areas in the vicinity of the proposed project site.

The site contains one existing single-family house in the western part. The remainder of the site is forested. Vegetation on the site primarily consists of native deciduous trees with a native scrub-shrub understory. The area directly east of the existing house is relatively undisturbed vegetated area, typified by steep terrain. Directly north of the site is Tam O'Shanter Park (approximately 15.5 acres), which seems to exhibit similar hydrophytic vegetation consistent with the wetland on-site. To the east and west are developed residential areas. The property directly to the south is currently under construction.

Critical Areas

The site contains three critical areas in the vicinity of the proposed project site. These include a Type O stream near the northern property line, a Category II riparian wetland in the northeastern corner of the site, and steep slopes adjacent to the stream and wetland system. The unnamed Type O stream flows east from 173rd Ave NE, and continues through an existing 24" culvert in the northeastern corner of the site. The stream flows subsurface for several thousand feet and likely does not daylight until it reaches near the shores of Lake Sammamish. Because it is a seasonal stream with no above ground connection to other waters, it meets the criteria of a Type O water. Type O streams typically receive 25-foot protective buffers.

The on-site wetland is influenced by seeps and seasonal flooding associated with the Type O stream. Therefore, it is rated as a riverine wetland on the DOE Wetland Rating Form. Wetland areas extend up the slopes on the adjacent property to the north. The subject wetland receives a total score of 52 points on the Wetland Rating Form, including a habitat score of 14 points. This wetland therefore meets the criteria of a Category II wetland. Category II wetlands with habitat scores under 20 points typically receive 75 foot buffers.

The steep slopes identified on this site abut the southern boundaries of the on-site wetland and stream areas. The slopes are greater than 40 percent grade. Steep slopes typically require 50-foot setbacks at the designated top of slope.

Project and Mitigation Proposal

The applicant is proposing the subdivision of an existing single-family lot into two single-family lots. Lot #1 (24,601 sq. ft.) will consist of a new 2-story over daylight basement house of approximately 2,800 sq. ft to be constructed over the site of an existing house (refer to the Critical Area Study Map) that is to be removed. Lot #2 (33,945 sq. ft.) will consist of a new 2-story house of approximately 2,800 sq. ft.

Slope Setback Modification

To achieve this proposed development, the 50-foot steep slope setbacks will be modified. Please refer to the plans/reports prepared by the project geotechnical engineer for a detailed discussion and justification for modifying the setbacks.

BSBL Modification

While no direct intrusions into the wetland and stream buffers will occur as part of this project, the it will be necessary to encroach slightly within the prescribed 20-foot building setback line (BSBL) associated with the on-site wetland. Only the northeast corner of the deck associated with the new house on Lot 2 will encroach within the 20-foot setback. This is a relatively small area and is expected to have no impact to the wetland or its associated buffer.

According to BMC 20.25H.090 D, the structure setback may be modified on an undeveloped site as part of the permit or approval for the underlying proposal. Following is a discussion of how the requirements under BMC 20.25H.090 D will be achieved:

Water quality, or slope stability as documented in a geotechnical report, will not be adversely affected.

The house will be set far enough away from the wetland so as not to affect water quality. A report has been prepared by a geotechnical engineer to discuss how slope stability will not be affected.

Encroachment into the structure setback will not disturb habitat of a species of local importance within a critical area or critical area buffer.

No species of local importance are known to use this site, therefore no associated habitat will be disturbed.

Vegetation in the critical area and critical area buffer will not be disturbed by construction, development, or maintenance activities and will be maintained in a healthy condition for the anticipated life of the development.

No vegetation will be disturbed within the on-site wetland, stream or buffers.

Enhancement planting on the boundary between the structure setback and the critical area buffer will reduce impacts of development within the structure setback.

As deemed necessary during construction, enhancement plantings will be added to the site between the structures and the buffer areas.

Review of Existing Information

Before conducting on-site investigations, a literature review was performed to identify records of wetlands and streams within the project area. While this project is primarily located in the rights-of-way of existing public roads, the majority of the adjacent critical areas are located on private property. Due to the lack of access, the presence of wetlands on these properties was determined using a combination of observations from the road, aerial

photography, survey information, and the following resources:

- U.S. Geological Survey (USGS) topographic map of Bellevue (USGS, 1991)
- National Wetlands Inventory map of project area (online wetlands mapper found at http://www.fws.gov/wetlands/Data/mapper.html
- *Soil Survey of King County Area Washington* (USDA, July 1983)
- City of Bellevue Critical Area Ordinance. Part 20.25H. Bellevue, Washington. October 2007
- King County Landscape Imaging "iMap" Website accessed at http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx
- *Hydric Soils List King County Area Washington* (NRCS, 2001)
- National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary Indicator by Region and Subregion (USFWS, March 2, 1997)

Wetland & Stream Classifications – Cowardin System

According to the Cowardin System, as described in Classification of Wetlands and Deepwater Habitats of the United States, the classification for the on-site wetland and stream is as follows:

Wetland: Palustrine, Scrub-Shrub Wetland, Broad-Leaved Deciduous, Seasonally flooded

Stream: Riverine, Intermittent, Streambed, Cobble-Gravel

Wetland & Stream Classifications – City of Bellevue

Pursuant to the City of Bellevue Municipal Code (BMC) 20.25H, the on-site wetland and stream are classified as follows:

Wetlands

The on-site wetland is a riverine wetland influenced by the seasonal flooding of the adjacent stream. The wetland receives a total score of 52 points for functions on the Wetland Rating System for Western Washington, including a habitat score of 14 points. This equates to a Category II classification. Category II wetlands with fewer than 20 points for habitat functions are typically dedicated 75-foot protective buffers.

Stream

The subject stream that flows along the northern property line is a seasonal stream that is not a Type S, F or N water and that is not physically connected to type S, F or N waters by an above ground channel system, stream, or wetland. Based on these existing conditions, this stream meets the definition of a Type O stream. In the City of Bellevue, Type O streams typically receive 25-foot protective buffers.

Wetland Determination Report

Methodology

The routine methodology described in the Washington State Wetlands Identification and Delineation Manual (Washington State Department of Ecology Publication #96-94, March 1997) was used to make a determination, as required by the City of Bellevue. Under this method, the process for making a wetland determination is based on three sequential steps:

1) Examination of the site for hydrophytic vegetation (species present and percent cover);

2) If hydrophytic vegetation is found, then the presence of hydric soils is determined.

3) The final step is determining if wetland hydrology exists in the area examined under the first two steps.

The following criteria descriptions were used in the boundary determination:

Wetland Vegetation Criteria

The 1997 edition of the Washington State Wetlands Identification and Delineation Manual defines hydrophytic vegetation as "the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present." Field indicators were used to determine whether the vegetation meets the definition for hydrophytic vegetation.

Wetland Soils Criteria and Mapped Description

The 1997 edition of the Washington State Wetlands Identification and Delineation Manual defines hydric soils as "soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." Field indicators were used to determine whether a given soil meets the definition for hydric soils.

The soils underlying this site are mapped the USDA Natural Resources Conservation Service (NRCS) as Alderwood gravelly sandy loam (6 to 15 percent slopes) and Everett gravelly sandy loam (0 to 5 percent slopes and 15 to 30 percent slopes).

Alderwood gravelly sandy loam is described as a moderately well drained soil on till plains. It is moderately deep over a hardpan. This soil formed in glacial till. Typically, the surface layer is very dark grayish brown gravelly sandy loam about 7 inches thick. The upper part of the subsoil is dark yellowish brown and dark brown very gravelly sandy loam about 23 inches thick. Included in this unit are small areas of Everett, Indianola, and Kitsap soils on terraces and uplands. Permeability of this soil is moderately rapid above the hardpan and very slow through it. Available water capacity is low. Soils sampled on site appear similar to the description for Alderwood gravelly sandy loam.

Everett gravelly sandy loam, 0-8 percent slopes is described as very deep, somewhat excessively drained soil on terraces and outwash plains. It formed in glacial outwash. Typically, the surface layer, where mixed to a depth of about 6 inches, is dark brown gravelly sandy loam. The subsoil is dark brown very gravelly sandy loam about 12 inches thick. Included in this unit are small areas of Alderwood soils on till plains, Indianola soils on terraces and outwash plains, and Ragnar soils on outwash plains. Included areas make up about 15 percent of the total acreage. Permeability of this Everett soil is rapid. Available water capacity is low.

Wetland Hydrology Criteria

The 1997 edition of the Washington State Wetlands Identification and Delineation Manual states that the "term wetland hydrology encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface for a sufficient duration during the growing season." It also explains that "areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and chemically reducing conditions, respectively."

Additionally, the manual states that "areas which are seasonally inundated and/or saturated to the surface for a consecutive number of days ≥12.5 percent of the growing season are wetlands, provided the soil and vegetation parameters are met. Areas inundated or saturated between five and 12.5 percent of the growing season in most years may or may not be wetlands. Areas saturated to the surface for less than five percent of the growing season are non-wetlands." Field indicators were used to determine whether wetland hydrology parameters were met on this site.

Boundary Determination Findings

Wetland

Dominant vegetation found within the on-site wetland areas consists of salmonberry (*Rubus spectabilis*, Fac+), trailing blackberry (*Rubus ursinus*, FacU), lady fern (*Athyrium filix-femina*, Fac+), yellow skunk cabbage (*Lysichiton americanum*, Obl), and field horsetail (*Equisetum arvense*, Fac). The underlying soils are dark grayish brown (2.5Y 3/2) sandy loam about 18 inches thick. The soils were moist at the time of our October 18, 2011 site visit.

The dominance of species rated "Facultative" or wetter meets the criteria for hydrophytic vegetation in this wetland. Based on field indicators, it appears that the areas mapped as wetland are saturated to the surface for more than 12.5 percent of the growing season, thereby fulfilling wetland hydrology criteria.

Non-wetland Areas

Dominant vegetation within the areas designated as non-wetland consists of western red cedar (*Thuja plicata*, Fac+), Douglas fir (*Pseudostuga menzeisii*, FacU), black cottonwood (*Populus balsamifera*, Fac), big leaf maple (*Acer macrophyllum*, FacU), salmonberry (*Rubus spectabilis*, Fac+), Oso-berry (*Oemleria cerasiformis*, FacU), vine maple (*Acer circinatum*, Fac-), Himalayan blackberry (*Rubus armeniacus*, FacU), (*Polystichum munitum*, FacU), and trailing blackberry (*Rubus ursinus*, FacU).

The soils underlying the upland areas are typically very dark grayish brown (2.5Y 3/2) sandy loam in the upper 4 inches of the surface and olive brown (2.5Y 4/4) from 4-18 inches below the surface. The soils were slightly moist at the time of our site investigation.

Based on the lack of field indicators, it appears that areas of the site mapped as non-wetland are not saturated to the surface for more than 12.5 percent of the growing season, thereby not fulfilling wetland hydrology criteria.

FUNCTIONS AND VALUES ASSESSMENT

Methodology

The methodology for this functions and values assessment is based on professional opinion developed through past field analyses and interpretation. This assessment pertains specifically to this site, but is typical for assessments of similar systems common to western Washington.

Functions and Values Components

Wetlands in western Washington perform a variety of ecosystem functions. Included among the most important functions provided by wetlands are stormwater control, water quality improvement, fish and wildlife habitat, aesthetic value, recreational opportunities, and education. Assessments of these functions for the project site are provided below.

Stormwater control

The on-site wetland area is relatively small compared to the surrounding area of the drainage basin. However, the existing shrub/herbaceous vegetation coverage within the wetland and moderate overbank storage are indicators that the wetland does have potential for supporting stormwater control functions. Based on these existing conditions, the wetland receives a moderate score for stormwater control functions. This function becomes increasingly more valuable as development increases in the area. Additionally, this function is important due to the presence of natural resources downstream that have the potential to be damaged by flooding.

Water Quality

Water quality improvement function is moderate due to the limited depressional features within the wetland. In order to remove materials that generally reduce water quality, hydrology needs an opportunity to slow and allow suspended solids to settle. The existing dense (native) vegetation does provide some soil stability, which reduces the potential for silt entering the on-site stream. Overall, the water quality improvement function of the on-site wetland and associated buffers is moderate. This function is important due to the presence of residential areas within 150ft of the wetland that would otherwise reduce water quality downstream, in Lake Sammamish, or groundwater down gradient from the wetland.

Wildlife Habitat

The site's relatively undisturbed native vegetation and close proximity to both Lake Sammamish and Tam O'Shanter Park to the north, gives the wetland unit the opportunity to provide habitat for many species. The existing forest canopy in the upland areas does provide excellent perch and refuge for avian species. Small urban adapted mammals and avian species may utilize dense vegetation on the slope as for refuge and forage opportunity. However, while there are at least three other wetlands within one-half mile of the proposed site, the connections between them are disturbed. Furthermore, vegetation and habitat diversity is somewhat limited. Based on these existing conditions, the expected wildlife function for the subject property is relatively low. Please see the Habitat Assessment section below for a detailed habitat assessment and a more detailed analysis of expected wildlife species.

Table 1. Critical Area and Setback Functions and Values

Function/Value	Existing Condition	Regulated Condition	Post-Mitigation Condition
Water Quality	M	M	M
Stormwater Storage	M	M	M
Wildlife Habitat	L	L	L

L-LOW, M-MEDIUM, H-HIGH

Functions and Values Conclusion

Based on the existing conditions of the site and surrounding suburban environment, the levels of typical wetland functions offered on this site are moderate to low.

HABITAT ASSESSMENT

Vegetation Description

Vegetation on the site consists primarily of non-maintained native species, including: big leaf maple (*Acer macrophyllum*), salmonberry (*Rubus spectabilis*), Trailing blackberry (*Rubus ursinus*), sword fern (*Polystichum munitum*), and lady fern (*Athyrium filix-femina*), with lesser amounts of Indian plum (*Oemleria cerasiformis*), yellow skunk-cabbage (*Lysichiton americanum*), and common horsetail (*Equisetum arvense*). There were trace amounts of Himalayan blackberry (*Rubus armeniacus)* present, but not within the data sites we collected.

Expected Wildlife Use

It is highly likely that birds and small mammals are utilizing the site as well as residing there. The following are typical avian species that may utilize this habitat: American crow (*Corvus brachyrhynchos),* American robin (*Turdus migratorius*), black-capped chickadee (*Poecile atricapillus*), bushtit (*Psaltriparus minimus*), common raven (*Corvus corax*), dark-eyed junco (*Junco hyemalis*), European starling (*Sturnus vulgaris*), northern flicker (*Colaptes auratus*), rufous-sided towhee (*Pipilo erythrophthalmus*), song sparrow (*Melospiza melodia*), steller's jay (*Cyanocitta stelleri*), and winter wren (*Troglodytes troglodytes*). Mammalian species that may utilize this site include bats (*Myotis spp.*), deer mice (*Peromyscus maniculatus*), eastern cottontail rabbits (*Sylvilagus floridanus*), moles (*Scapanus spp.*), raccoons (*Procyon lotor*), shrews (*Sorex spp.),* squirrels (*Sciuris griseus, Tamiasciurus douglasii*), and Virginia opossums (*Didelphis virginiana*). This list is not intended to be all-inclusive, and may omit some bird, mammal or amphibian species that utilize the site.

Species of Local Importance

No terrestrial or aquatic species of local importance were observed during the site investigation or are identified on the Washington State Department of Fish and Wildlife Priority Habitats and Species (PHS) maps within a primary association area.

Potential Habitat Impact

No direct or indirect impacts are proposed to any habitats associated with species of local importance.

Performance Standards (BMC LUC 20.25H.160)

No habitat associated with species of local importance is present on or in the vicinity of the subject property and therefore the only applicable performance standards will be included in this report.

Use Of This Report

This Critical Area Study is supplied to D. Mitchell Homes, Inc. as a means of determining on-site wetland conditions, as required by the City of Lake Forest Park during the permitting process. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to wetlands are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of care employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.

Andrea Bachman
Senior Wetland Ecologist

REFERENCES

City of Bellevue Critical Areas Ordinance, Chapter 20.25H. City of Bellevue, Washington. June 2006.

Cowardin, et al., 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S.D.I. Fish and Wildlife Service. FWS/OBS-79/31. December 1979.

National List of Plant Species that Occur in Wetlands, Northwest Region. 1996. U.S. Department of the Interior, Fish and Wildlife Service. Washington, D.C.

Soil Survey of King County Area Washington. U.S.D.A. Soil Conservation Service. July 1983.

Washington State Wetlands Identification and Delineation Manual. Washington State Department of Ecology. Publication #96-94. March 1997.

Field Data Sheet
Mitchell - WRI # 11123
Investigation Date: 10/18/2011

Pit	Depth	Texture	Color	Moisture	Species	%	Status	Strata
S1	0-18"	Sandy Loam	2.5Y 3/2	moist	*Rubus spectabilis*	45	Fac+	Shrub
Wetland					*Rubus ursinus*	15	FacU	Woody Vine
					Athyrium filix-femina	10	Fac	Herb
					Lysichiton americanum	5	Obl	Herb
					Equisetum arvense	5	Fac	Herb
Conclusion: Wetland - Parameters for hydrophytic vegetation, hydric soils, and wetland hydrology are met.								
S2	0-4"	Sandy Loam	2.5Y 3/2	moist	*Acer macrophyllum*	55	FacU	Tree
Non-Wetland	4-18"	Sandy Loam	2.5Y 4/4	moist	*Rubus spectabilis*	20	Fac+	Shrub
					Oemleria cerasiformis	5	FacU	Herb
					Polystichum munitum	40	FacU	Herb
					Rubus ursinus	15	FacU	Woody Vine
Conclusion: Non-Wetland - Parameters for hydrophytic vegetation, hydric soils, and wetland hydrology are not met.								

Oher spp. on site: Thuja plicata, Populus balsamifera, Pseudotsuga menziesii, Acer circinatum, Rubus armeniacus, Ilex aquifolium

Wetland name or number Mitchell

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 - Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Mitchell - 173rd Ave Date of site visit: 10/11

Rated by A. Bachman Trained by Ecology? Yes ☑ No ☐ Date of training 11/06

SEC: 25 TWNSHP: 25N RNGE: 5W Is S/T/R in Appendix D? Yes ☐ No ☑

Map of wetland unit: Figure ____ Estimated size ____

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II✓ III___ IV___

Category I = Score >=70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score <30

Score for Water Quality Functions	16
Score for Hydrologic Functions	22
Score for Habitat Functions	14
TOTAL score for Functions	52

Category based on SPECIAL CHARACTERISTICS of wetland

I___ II___ Does not Apply✓

Final Category (choose the "highest" category from above) II

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating	
Estuarine		**Depressional**	
Natural Heritage Wetland		**Riverine**	✓
Bog		**Lake-fringe**	
Mature Forest		**Slope**	
Old Growth Forest		**Flats**	
Coastal Lagoon		**Freshwater Tidal**	
Interdunal			
None of the above		Check if unit has multiple HGM classes present	

Wetland name or number Mitchell

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered **animal or plant** species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		✓
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered **animal** species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		✓
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		✓
SP4. *Does the wetland unit have a local significance in addition to its functions*? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		✓

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number Mitchell

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?
☑ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** ☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
☑ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?
___The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
___At least 30% of the open water area is deeper than 6.6 ft (2 m)?
☑ NO – go to 4 ☐ **YES** – The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?
____The wetland is on a slope (*slope can be very gradual*),
____The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
____The water leaves the wetland **without being impounded**?
NOTE: *Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).*
☑ NO - go to 5 ☐ **YES** – The wetland class is **Slope**

Wetland name or number Mitchell

5. Does the entire wetland unit **meet all** of the following criteria?

✓ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

✓ The overbank flooding occurs at least once every two years.

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

☐ NO - go to 6 ☑ **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☐ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated		*HGM Class to Use in Rating*	
Slope + Riverine	☐	Riverine	☐
Slope + Depressional	☐	Depressional	☐
Slope + Lake-fringe	☐	Lake-fringe	☐
Depressional + Riverine along stream within boundary	☐	Depressional	☐
Depressional + Lake-fringe	☐	Depressional	☐
Salt Water Tidal Fringe and any other class of freshwater wetland	☐	Treat as ESTUARINE under wetlands with special characteristics	☐

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number Mitchell

R	Riverine and Freshwater Tidal Fringe Wetlands WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	Points (only 1 score per box)
R	**R 1. Does the wetland unit have the potential to improve water quality?**	*(see p.52)*
R	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event: ☐ Depressions cover >3/4 area of wetland — points = 8 ☐ Depressions cover > 1/2 area of wetland — points = 4 If depressions > ½ of area of unit draw polygons on aerial photo or map ☑ Depressions present but cover < 1/2 area of wetland — points = 2 ☐ No depressions present — points = 0	Figure ___ 2
R	R 1.2 Characteristics of the vegetation in the unit (areas with >90% cover at person height): ☐ Trees or shrubs > 2/3 the area of the unit — points = 8 ☑ Trees or shrubs > 1/3 area of the unit — points = 6 ☐ Ungrazed, herbaceous plants > 2/3 area of unit — points = 6 ☐ Ungrazed herbaceous plants > 1/3 area of unit — points = 3 ☐ Trees, shrubs, and ungrazed herbaceous < 1/3 area of unit — points = 0 Aerial photo or map showing polygons of different vegetation types	Figure ___ 6
R	*Add the points in the boxes above*	8
R	**R 2. Does the wetland unit have the opportunity to improve water quality?** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* ☐ Grazing in the wetland or within 150ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 feet of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☑ Residential, urban areas, golf courses are within 150 ft of wetland ☐ The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality ☐ Other ____ ☑ **YES** multiplier is **2** ☐ **NO** multiplier is **1**	*(see p.53)* multiplier 2
R	**TOTAL - Water Quality Functions** Multiply the score from R 1 by R 2 ***Add score to table on p. 1***	16

Comments

Wetland name or number Mitchell

	Riverine and Freshwater Tidal Fringe Wetlands HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion	Points (only 1 score per box)
	R 3. Does the wetland unit have the potential to reduce flooding and erosion?	*(see p.54)*
R	R 3.1 Characteristics of the overbank storage the unit provides: *Estimate the average width of the wetland unit perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of unit)/(average width of stream between banks).* ☐ If the ratio is more than 20 points = 9 ☐ If the ratio is between 10 – 20 points = 6 ☑ If the ratio is 5 - <10 points = 4 ☐ If the ratio is 1 - <5 points = 2 ☐ If the ratio is < 1 points = 1 Aerial photo or map showing average widths	Figure ___ 4
R	R 3.2 Characteristics of vegetation that slow down water velocities during floods: *Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description.* (polygons need to have >90% cover at person height NOT Cowardin classes): ☑ Forest or shrub for >1/3 area OR herbaceous plants > 2/3 area points = 7 ☐ Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area points = 4 ☐ Vegetation does not meet above criteria points = 0 Aerial photo or map showing polygons of different vegetation types	Figure ___ 7
R	*Add the points in the boxes above*	11
R	**R 4. Does the wetland unit have the opportunity to reduce flooding and erosion?** Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply.* ☐ There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. ☑ There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding ☐ Other_____ *(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)* ☑ **YES** multiplier is 2 ☐ **NO** multiplier is 1	*(see p.57)* multiplier 2
R	**TOTAL - Hydrologic Functions** Multiply the score from R 3 by R 4 ***Add score to table on p. 1***	22

Comments

Wetland name or number Mitchell

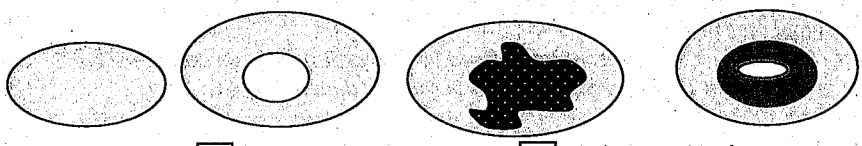
These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat	**Points** (only 1 score per box)
H 1. Does the wetland unit have the potential to provide habitat for many species?	
H 1.1 Vegetation structure ***(see p. 72)*** *Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres.* ☐ Aquatic bed ☐ Emergent plants ☑ Scrub/shrub (areas where shrubs have >30% cover) ☐ Forested (areas where trees have >30% cover) *If the unit has a forested class check if:* ☐ The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation structures that qualify. If you have:* ☐ 4 structures or more points = 4 ☐ 3 structures points = 2 ☐ 2 structures points = 1 ☑ 1 structure points = 0 Map of Cowardin vegetation classes	Figure ___ 0
H 1.2. Hydroperiods ***(see p. 73)*** *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)* ☐ Permanently flooded or inundated ☑ Seasonally flooded or inundated ☐ Occasionally flooded or inundated ☑ Saturated only ☑ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ ***Lake-fringe wetland* = 2 points** ☐ ***Freshwater tidal wetland* = 2 points** ☐ 4 or more types present points = 3 ☑ 3 types present points = 2 ☐ 2 types present point = 1 ☐ 1 type present points = 0 Map of hydroperiods	Figure ___ 2
H 1.3. Richness of Plant Species ***(see p. 75)*** Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle* *List species below if you want to:* If you counted: ☐ > 19 species points = 2 ☑ 5 - 19 species points = 1 ☐ < 5 species points = 0	1

Total for page 3

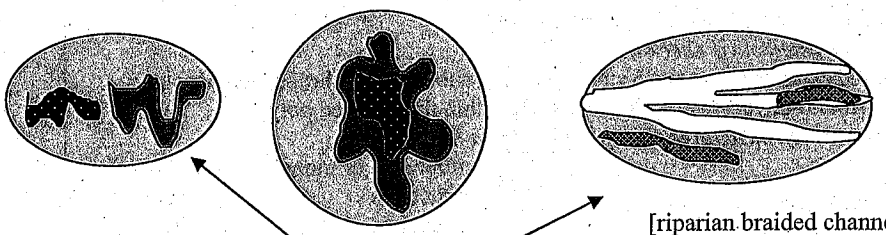
Wetland name or number Mitchell

H 1.4. Interspersion of habitats *(see p. 76)*

Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



☑ None = 0 points ☐ Low = 1 point ☑ Moderate = 2 points



☐ High = 3 points [riparian braided channels]

NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

Figure ___

0

H 1.5. Special Habitat Features: *(see p. 77)*

Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).

☐ Standing snags (diameter at the bottom > 4 inches) in the wetland

☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)

☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet turned grey/brown)*

☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. *(structures for egg-laying by amphibians)*

☑ Invasive plants cover less than 25% of the wetland area in each stratum of plants

NOTE: The 20% stated in early printings of the manual on page 78 is an error.

1

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

4

Comments

Wetland name or number Mitchell

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
H 2.1 Buffers ***(see p. 80)*** *Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* ☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) **Points = 5** ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. **Points = 4** ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. **Points = 4** ☑ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, . **Points = 3** ☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. **Points = 3** **If buffer does not meet any of the criteria above** ☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. **Points = 2** ☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. **Points = 2** ☐ Heavy grazing in buffer. **Points = 1** ☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland **Points = 0.** ☐ Buffer does not meet any of the criteria above. **Points = 1** Aerial photo showing buffers	Figure ___ 3
H 2.2 Corridors and Connections ***(see p. 81)*** H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). ☐ YES = **4 points** (*go to H 2.3*) ☐ NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? ☐ YES = **2 points** (*go to H 2.3*) ☐ NO = H 2.2.3 H 2.2.3 Is the wetland: ☐ within 5 mi (8km) of a brackish or salt water estuary OR ☐ within 3 mi of a large field or pasture (>40 acres) OR ☑ within 1 mi of a lake greater than 20 acres? ☑ YES = **1 point** ☐ NO = **0 points**	1

Total for page 4

Wetland name or number Mitchell

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*** Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.* ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre). ☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report p. 152*). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158*). ☑ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*). ☑ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. ☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).* ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft. ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. ☐ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long. ☐ If wetland has **3 or more** priority habitats = **4 points** ☑ If wetland has **2** priority habitats = **3 points** ☐ If wetland has **1** priority habitat = **1 point** ☐ No habitats = 0 points *Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)*	3

Wetland name or number Mitchell

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** ☐ There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 ☐ The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 ☑ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 ☐ The wetland is Lake-fringe on a lake **with** disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 ☐ There is at least 1 wetland within ½ mile. points = 2 ☐ There are no wetlands within ½ mile. points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1,H2.2, H2.3, H2.4*	10
TOTAL for H 1 from page 14	4
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	14

Wetland name or number Mitchell

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands *(see p. 86)* Does the wetland unit meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt. ☐ YES = Go to SC 1.1 NO ☑ = Go to SC 2.0	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ YES = Category I ☐ NO go to SC 1.2	**Cat. I** ☐
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? ☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native *Spartina* spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	☐ **Cat. I** ☑ **Cat. II** ☐ **Dual rating I/II**

SC 2.0 Natural Heritage Wetlands *(see p. 87)*

Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.

SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)*

S/T/R information from Appendix D [✓] or accessed from WNHP/DNR web site [ ]

YES [ ] – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO [✓]

SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?

[ ] YES = Category I NO [✓] not a Heritage Wetland

[ ] **Cat. I**

SC 3.0 Bogs *(see p. 87)*

Does the wetland unit **(or any part of the unit)** meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog.* ***If you answer yes you will still need to rate the wetland based on its functions.***

1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 [ ] [✓] No - go to Q. 2
2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?

   [ ] Yes - go to Q. 3 [✓] No - Is not a bog for purpose of rating
3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?

   [ ] Yes – Is a bog for purpose of rating [ ] No - go to Q. 4

   NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.

1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover *(> 30% coverage of the total shrub/herbaceous cover)?*

2. [ ] YES = Category I No [ ] Is not a bog for purpose of rating

[ ] **Cat. I**

Wetland name or number Mitchell

SC 4.0 Forested Wetlands ***(see p. 90)***

Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.*

☐ **Old-growth forests**: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.

NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.

☐ **Mature forests**: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.

☐ YES = Category I NO ☑ not a forested wetland with special characteristics

Cat. I ☐

SC 5.0 Wetlands in Coastal Lagoons ***(see p. 91)***

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks

☐ The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐ YES = Go to SC 5.1 NO ☑ not a wetland in a coastal lagoon

SC 5.1 Does the wetland meets all of the following three conditions?

☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).

☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

☐ The wetland is larger than 1/10 acre (4350 square feet)

☐ YES = Category I ☐ NO = Category II

☐ **Cat. I**

☐ **Cat. II**

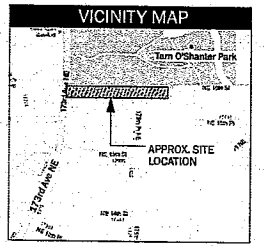
Wetland name or number Mitchell

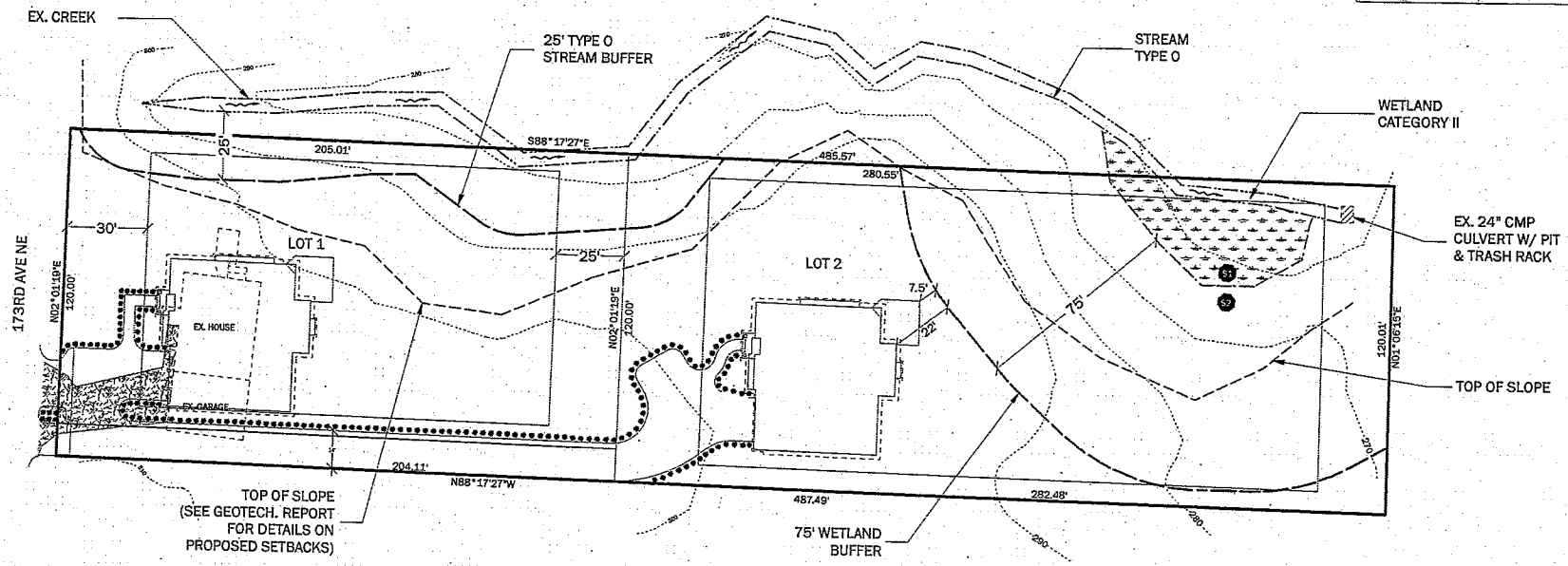
SC 6.0 Interdunal Wetlands *(see p. 93)* Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ☐ YES - go to SC 6.1 NO ☑ not an interdunal wetland for rating ***If you answer yes you will still need to rate the wetland based on its functions.*** In practical terms that means the following geographic areas: ☐ Long Beach Peninsula- lands west of SR 103 ☐ Grayland-Westport- lands west of SR 105 ☐ Ocean Shores-Copalis- lands west of SR 115 and SR 109 SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger? ☐ YES = Category II ☐ NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? ☐ YES = Category III	**Cat. II** ☐ **Cat. III** ☐
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories, and record on p. 1* If you answered NO for all types enter "Not Applicable" on p.1	☐ Cat. I ☐ Cat. II ☐ Cat. III ☑ N/A

CRITICAL AREA STUDY MAP
MITCHELL - 173RD AVE
PORTION OF SECTION 2, TWP 27 NORTH, RGE 5 EAST, W.M.

0 40 80
SCALE: 1" = 40'

VICINITY MAP





LEGEND

- WETLAND
- WETLAND/ STREAM BUFFER
- S1 & S2 DATA SITES
- TOP OF SLOPE (40%)
- STREAM
- EX. GRAVEL

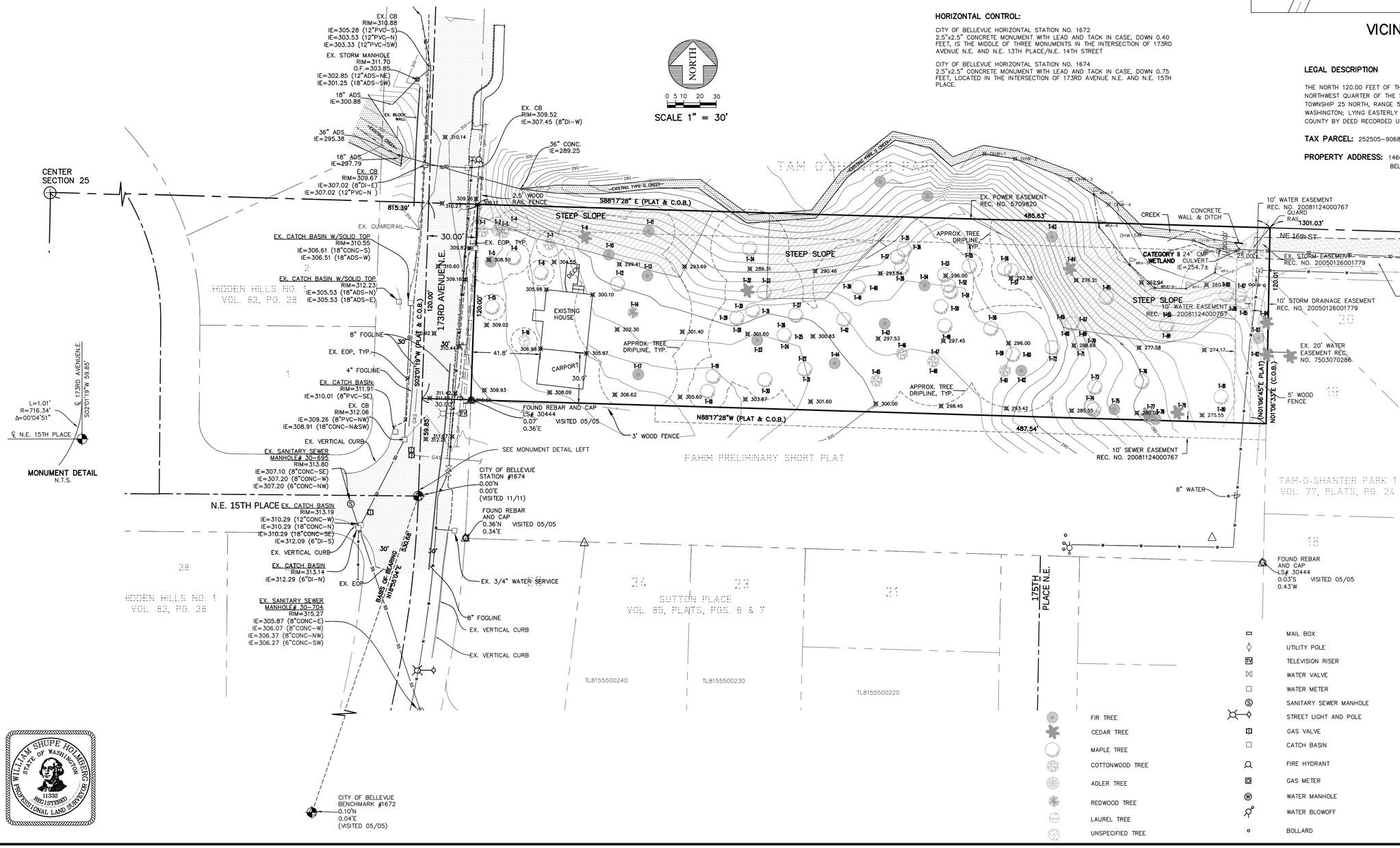
Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

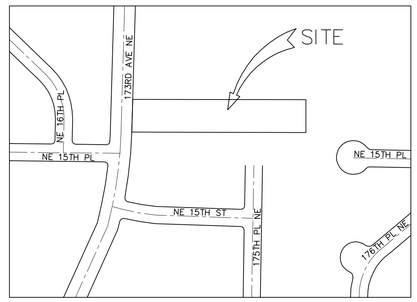
CRITICAL AREA STUDY MAP
MITCHELL - 173RD AVE
CITY OF BELLEVUE, WASHINGTON

D. Mitchell Homes, Inc.
Attn: Dave Mitchell
PO Box 805
Bothell, WA 98041

Sheet 1/1
Job # 11123
Drawn by: Z. Wrzeszcz
Date: March 5, 2012

PORTION OF THE N.W. 1/4, OF THE S.E. 1/4 OF SEC. 25 TWN. 25 N., RNG 5 E., WM
CITY OF BELLEVUE, WASHINGTON





VICINITY MAP
NTS

DATUM

NAVD 88

BENCHMARK

CITY OF BELLEVUE HORIZONTAL STATION NO. 1672
2.5"x2.5" CONCRETE MONUMENT WITH LEAD AND TACK IN CASE, DOWN 0.40 FEET, IS THE MIDDLE OF THREE MONUMENTS IN THE INTERSECTION OF 173RD AVENUE N.E. AND N.E. 13TH PLACE/N.E. 14TH STREET
ELEVATION=318.387 FEET

BASIS OF BEARINGS: NAD83 (NSRS 2007) – North Zone

HORIZONTAL CONTROL:

CITY OF BELLEVUE HORIZONTAL STATION NO. 1672
2.5"x2.5" CONCRETE MONUMENT WITH LEAD AND TACK IN CASE, DOWN 0.40 FEET, IS THE MIDDLE OF THREE MONUMENTS IN THE INTERSECTION OF 173RD AVENUE N.E. AND N.E. 13TH PLACE/N.E. 14TH STREET

CITY OF BELLEVUE HORIZONTAL STATION NO. 1674
2.5"x2.5" CONCRETE MONUMENT WITH LEAD AND TACK IN CASE, DOWN 0.75 FEET, LOCATED IN THE INTERSECTION OF 173RD AVENUE N.E. AND N.E. 15TH PLACE.

LEGAL DESCRIPTION

THE NORTH 120.00 FEET OF THAT PORTION OF THE NORTH HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 25 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON; LYING EASTERLY OF THE COUNTY ROAD CONVEYED TO KING COUNTY BY DEED RECORDED UNDER RECORDING NUMBER 1444856.

TAX PARCEL: 252505-9068-07

PROPERTY ADDRESS: 1460 173RD AVENUE NORTHEAST
BELLEVUE, WA 98008

TREE ID	SPECIES	DIA.
T-1	COTTONWOOD	8
T-2	COTTONWOOD	8
T-3	COTTONWOOD	8
T-4	LAUREL	10
T-5	DOUGLAS FIR	14
T-6	MAPLE	10
T-7	COTTONWOOD	8
T-8	MAPLE	8
T-9	CEDAR	16
T-10	DOUGLAS FIR	24
T-11	DOUGLAS FIR	16
T-12	MAPLE	12
T-13	DOUGLAS FIR	16
T-14	REDWOOD	48
T-15	MAPLE	8
T-16	TREE	10
T-17	DOUGLAS FIR	24
T-18	MAPLE	12
T-19	MAPLE	12
T-20	MAPLE	12
T-21	MAPLE	10
T-22	MAPLE	8
T-23	DOUGLAS FIR	30
T-24	MAPLE	14
T-25	MAPLE	14
T-26	MAPLE	24
T-27	MAPLE	10
T-28	MAPLE	8
T-29	MAPLE	10
T-30	MAPLE	12
T-31	MAPLE	18
T-32	CEDAR	10
T-33	MAPLE	24
T-34	MAPLE	24
T-35	MAPLE	14
T-36	MAPLE	20
T-37	MAPLE	12
T-38	MAPLE	12
T-39	MAPLE	24
T-40	MAPLE	24
T-41	MAPLE	24
T-42	MAPLE	16
T-43	DOUGLAS FIR	24
T-44	DOUGLAS FIR	36
T-45	COTTONWOOD	16
T-46	COTTONWOOD	14
T-47	COTTONWOOD	16
T-48	COTTONWOOD	48
T-49	MAPLE	8
T-50	MAPLE	8
T-51	MAPLE	8
T-52	MAPLE	12
T-53	MAPLE	8
T-54	DOUGLAS FIR	36
T-55	MAPLE	8
T-56	MAPLE	8
T-57	MAPLE	12
T-58	MAPLE	8
T-59	MAPLE	16
T-60	MAPLE	16
T-61	COTTONWOOD	48
T-62	DOUGLAS FIR	42
T-63	DOUGLAS FIR	42
T-64	CEDAR	30
T-65	CEDAR	24
T-66	MAPLE	16
T-67	MAPLE	16
T-68	MAPLE	36
T-69	MAPLE	10
T-70	MAPLE	18
T-71	MAPLE	24
T-72	MAPLE	10
T-73	MAPLE	14
T-74	MAPLE	36
T-75	DOUGLAS FIR	16
T-76	MAPLE	42
T-77	CEDAR	14
T-78	DOUGLAS FIR	24
T-79	CEDAR	10
T-80	MAPLE	20
T-81	MAPLE	22
T-82	CEDAR	24
T-83	DOUGLAS FIR	14
T-84	CEDAR	24
T-85	MAPLE	20
T-86	MAPLE	20
T-87	MAPLE	28
T-88	MAPLE	28
T-89	MAPLE	18
T-90	MAPLE	24

- MAIL BOX
- UTILITY POLE
- TELEVISION RISER
- WATER VALVE
- WATER METER
- SANITARY SEWER MANHOLE
- STREET LIGHT AND POLE
- GAS VALVE
- CATCH BASIN
- FIRE HYDRANT
- GAS METER
- WATER MANHOLE
- WATER BLOWOFF
- BOLLARD
- FIR TREE
- CEDAR TREE
- MAPLE TREE
- COTTONWOOD TREE
- ADLER TREE
- REDWOOD TREE
- LAUREL TREE
- UNSPECIFIED TREE

WILLIAM SHUPE HOLMBERG
STATE OF WASHINGTON
11332
REGISTERED
PROFESSIONAL LAND SURVEYOR

REVISIONS	BY	DATE
REVISIONS PER CITY REVIEW	JEF	04/06/12

BOUNDARY & TOPOGRAPHIC SURVEY

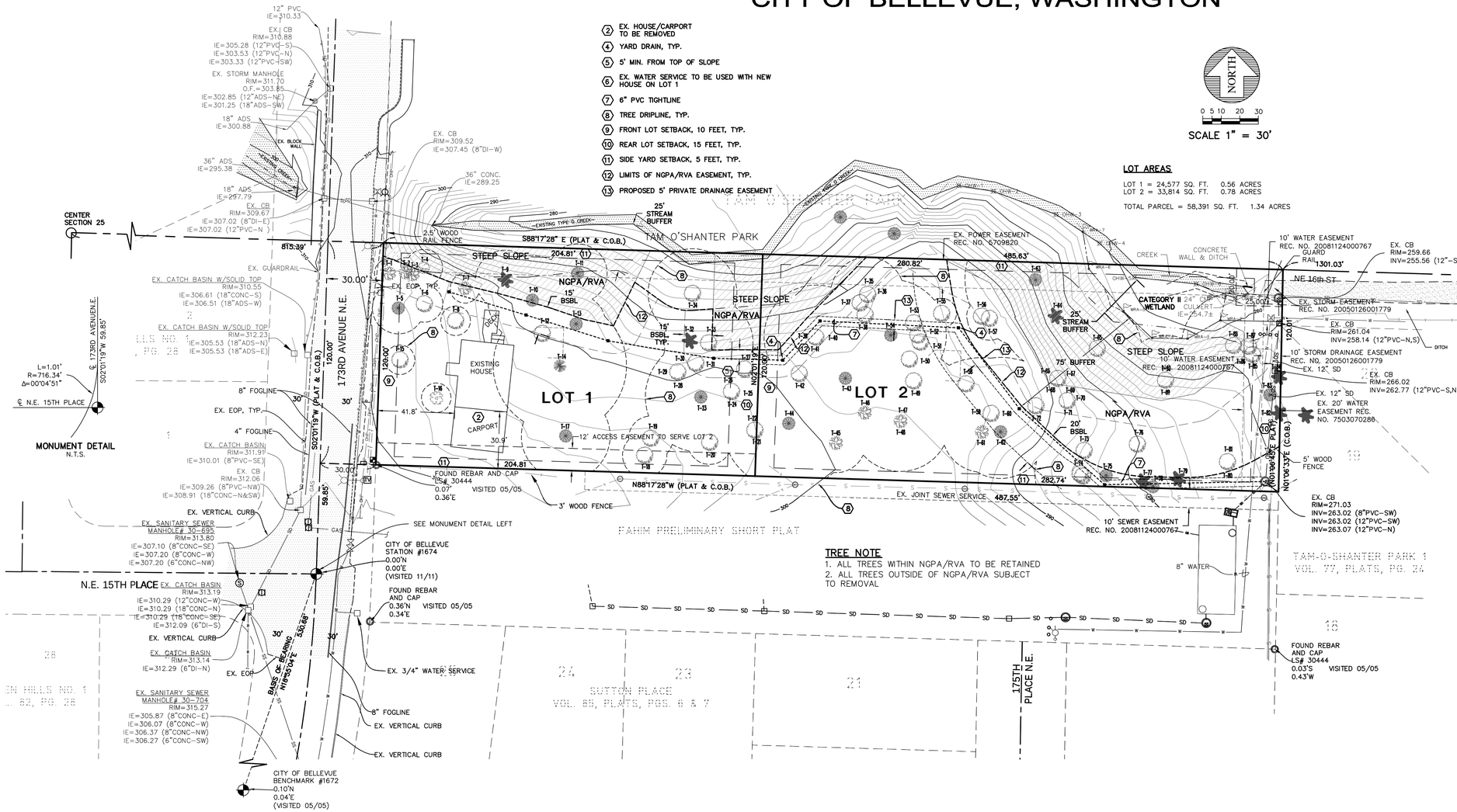
VIEWPOINT ESTATES

Encompass ENGINEERING & SURVEYING
Western Washington Division
165 NE Juniper Street, Suite 201 • Issaquah, WA 98027 • Phone: (425) 392-0250 • Fax: (425) 391-3055
Eastern Washington Division
108 East 2nd Street • Cle Elum, WA 98922 • Phone: (509) 674-4433 • Fax: (509) 674-7419

JOB NO.	11613
DATE	3/13/12
SCALE	1"=30'
DESIGNED	TJR
DRAWN	JEF
CHECKED	TJR
APPROVED	WSH

SHEET 1 OF 1

PORTION OF THE N.W. 1/4, OF THE S.E. 1/4 OF SEC. 25 TWN. 25 N., RNG 5 E., WM
CITY OF BELLEVUE, WASHINGTON



VICINITY MAP
NTS

OWNER
OAKVIEW HOMES LLC 229999
4014 134TH AVENUE N.E.
BELLEVUE, WA 98005
(425) 241-1988

ENGINEER/SURVEYOR
ENCOMPASS ENGINEERING & SURVEYING
165 N.E. JUNIPER STREET, SUITE 201
ISSAQUAH, WA 90827
(425) 392-0250

LEGAL DESCRIPTION
THE NORTH 120.00 FEET OF THAT PORTION OF THE NORTH HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 25 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON; LYING EASTERLY OF THE COUNTY ROAD CONVEYED TO KING COUNTY BY DEED RECORDED UNDER RECORDING NUMBER 1444856.

TAX PARCEL: 252505-9068-07

PROPERTY ADDRESS: 1460 173RD AVENUE NORTHEAST BELLEVUE, WA 98008

ZONING: R-3.5

DATUM
NAVD 88

BENCHMARK
CITY OF BELLEVUE HORIZONTAL STATION NO. 1672
2.5"x2.5" CONCRETE MONUMENT WITH LEAD AND TACK IN CASE, DOWN 0.40 FEET, IS THE MIDDLE OF THREE MONUMENTS IN THE INTERSECTION OF 173RD AVENUE N.E. AND N.E. 13TH PLACE/N.E. 14TH STREET
ELEVATION=318.387 FEET

BASIS OF BEARINGS: NAD83 (NSRS 2007) – North Zone

HORIZONTAL CONTROL:
CITY OF BELLEVUE HORIZONTAL STATION NO. 1672
2.5"x2.5" CONCRETE MONUMENT WITH LEAD AND TACK IN CASE, DOWN 0.40 FEET, IS THE MIDDLE OF THREE MONUMENTS IN THE INTERSECTION OF 173RD AVENUE N.E. AND N.E. 13TH PLACE/N.E. 14TH STREET

CITY OF BELLEVUE HORIZONTAL STATION NO. 1674
2.5"x2.5" CONCRETE MONUMENT WITH LEAD AND TACK IN CASE, DOWN 0.75 FEET, LOCATED IN THE INTERSECTION OF 173RD AVENUE N.E. AND N.E. 15TH PLACE.

TREE ID	SPECIES	DIA.	WEIGHING FACTOR	WEIGHTED DIAMETER	TREES SAVED (DIAM. IN.)
T-1	COTTONWOOD	8	0.5	4	4
T-2	COTTONWOOD	8	0.5	4	4
T-3	COTTONWOOD	8	0.5	4	4
T-4	LAUREL	10	1.0	10	10
T-5	DOUGLAS FIR	14	1.0	14	
T-6	MAPLE	10	1.0	10	
T-7	COTTONWOOD	8	0.5	4	
T-8	MAPLE	8	1.0	8	
T-9	CEDAR	16	1.0	16	16
T-10	DOUGLAS FIR	24	1.0	24	24
T-11	DOUGLAS FIR	16	1.0	16	16
T-12	MAPLE	12	1.0	12	
T-13	DOUGLAS FIR	16	1.0	16	
T-14	REDWOOD	48	1.0	48	
T-15	MAPLE	8	1.0	8	
T-16	TREE	10	1.0	10	
T-17	DOUGLAS FIR	24	1.0	24	
T-18	MAPLE	12	1.0	12	
T-19	MAPLE	12	1.0	12	
T-20	MAPLE	12	1.0	12	
T-21	MAPLE	10	1.0	10	10
T-22	MAPLE	8	1.0	8	8
T-23	DOUGLAS FIR	30	1.0	30	
T-24	MAPLE	14	1.0	14	
T-25	MAPLE	14	1.0	14	
T-26	MAPLE	24	1.0	24	
T-27	MAPLE	10	1.0	10	
T-28	MAPLE	8	1.0	8	
T-29	MAPLE	10	1.0	10	
T-30	MAPLE	12	1.0	12	
T-31	MAPLE	18	1.0	18	
T-32	CEDAR	10	1.0	10	
T-33	MAPLE	24	1.0	24	
T-34	MAPLE	24	1.0	24	24
T-35	MAPLE	14	1.0	14	
T-36	MAPLE	20	1.0	20	
T-37	MAPLE	12	1.0	12	
T-38	MAPLE	12	1.0	12	
T-39	MAPLE	24	1.0	24	
T-40	MAPLE	24	1.0	24	
T-41	MAPLE	24	1.0	24	
T-42	MAPLE	16	1.0	16	
T-43	DOUGLAS FIR	24	1.0	24	
T-44	DOUGLAS FIR	36	1.0	36	
T-45	COTTONWOOD	16	0.5	8	
T-46	COTTONWOOD	14	0.5	7	
T-47	COTTONWOOD	16	0.5	8	
T-48	COTTONWOOD	48	0.5	24	
T-49	MAPLE	8	1.0	8	
T-50	MAPLE	8	1.0	8	
T-51	MAPLE	8	1.0	8	
T-52	MAPLE	12	1.0	12	
T-53	MAPLE	8	1.0	8	
T-54	DOUGLAS FIR	36	1.0	36	
T-55	MAPLE	8	1.0	8	
T-56	MAPLE	8	1.0	8	8
T-57	MAPLE	12	1.0	12	12
T-58	MAPLE	8	1.0	8	
T-59	MAPLE	16	1.0	16	
T-60	MAPLE	16	1.0	16	
T-61	COTTONWOOD	48	0.5	24	
T-62	DOUGLAS FIR	42	1.0	42	42
T-63	DOUGLAS FIR	42	1.0	42	42
T-64	CEDAR	30	1.0	30	30
T-65	CEDAR	24	1.0	24	24
T-66	MAPLE	16	1.0	16	16
T-67	MAPLE	16	1.0	16	16
T-68	MAPLE	36	1.0	36	36
T-69	MAPLE	10	1.0	10	10
T-70	MAPLE	18	1.0	18	18
T-71	MAPLE	24	1.0	24	24
T-72	MAPLE	10	1.0	10	10
T-73	MAPLE	14	1.0	14	14
T-74	MAPLE	36	1.0	36	36
T-75	DOUGLAS FIR	16	1.0	16	
T-76	MAPLE	42	1.0	42	42
T-77	CEDAR	14	1.0	14	
T-78	DOUGLAS FIR	24	1.0	24	
T-79	CEDAR	10	1.0	10	
T-80	MAPLE	20	1.0	20	20
T-81	MAPLE	22	1.0	22	22
T-82	CEDAR	24	1.0	24	24
T-83	DOUGLAS FIR	14	1.0	14	14
T-84	CEDAR	24	1.0	24	24
T-85	MAPLE	20	1.0	20	20
T-86	MAPLE	20	1.0	20	20
T-87	MAPLE	28	1.0	28	28
T-88	MAPLE	28	1.0	28	28
T-89	MAPLE	18	1.0	18	18
T-90	MAPLE	24	1.0	24	24
		1662		1575	742 = 47% DIAMETER INCHES RETAINED

MAIL BOX
UTILITY POLE
TELEVISION RISER
WATER VALVE
WATER METER
SANITARY SEWER MANHOLE
STREET LIGHT AND POLE
GAS VALVE
CATCH BASIN
FIRE HYDRANT
GAS METER
WATER MANHOLE
WATER BLOWOFF
BOLLARD

FIR TREE
CEDAR TREE
MAPLE TREE
COTTONWOOD TREE
ADLER TREE
REDWOOD TREE
LAUREL TREE
UNSPECIFIED TREE

WILLIAM SHUPE HOLMBERG — STATE OF WASHINGTON — 11332 — REGISTERED PROFESSIONAL LAND SURVEYOR

REVISIONS	BY	DATE
REVISIONS PER CITY REVIEW	JEF	04/06/12

PRELIMINARY SHORT PLAT

VIEWPOINT ESTATES

Encompass ENGINEERING & SURVEYING
Western Washington Division
165 NE Juniper Street, Suite 201 • Issaquah, WA 98027 • Phone: (425) 392-0250 • Fax: (425) 391-3055
Eastern Washington Division
108 East 2nd Street • Cle Elum, WA 98922 • Phone: (509) 674-7433 • Fax: (509) 674-7419

JOB NO.	11613
DATE	02/24/12
SCALE	1"=30'
DESIGNED	TJR
DRAWN	JEF
CHECKED	TJR
APPROVED	TJR

SHEET 1 OF 1

CRITICAL AREA SITE PLAN

VIEWPOINT ESTATES 2-LOT SHORT PLAT

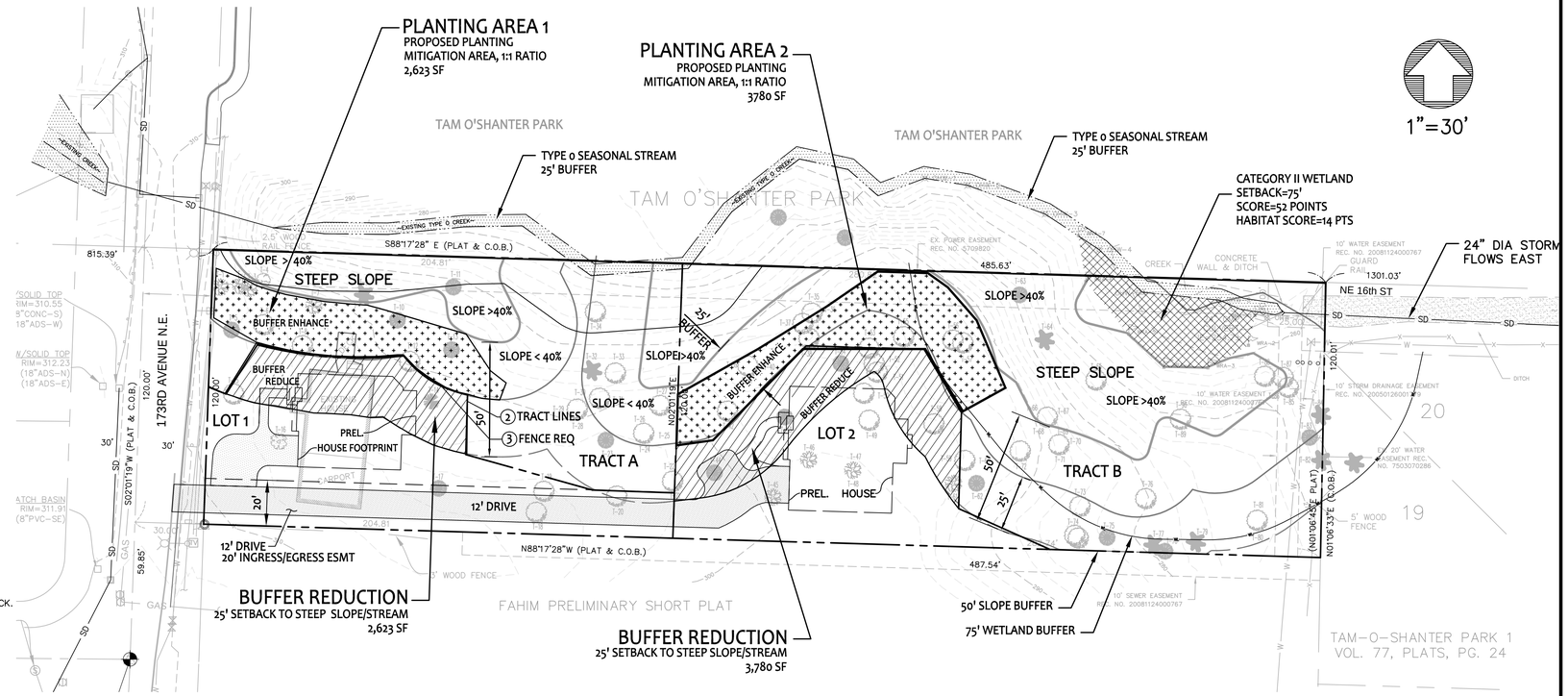
1460 173rd Avenue NE, Bellevue, WA 98008

TREE TABLE (ARBORIST TONY SHOFFNER)

TREE #	TREE SPECIES	DBH	CONDITION NOTES
1	JAPANESE MAPLE (ACER JAPONICUM)	8"	GOOD CONDITION AND HEALTH.
2	DOUGLAS F IR (PSEUDOTSUGA MENZIESII)	16"	POOR. TOPPED.
3	SAUCER MAGNOLIA (MAGNOLIA X SOULANGIANA)	12"	GOOD CONDITION AND HEALTH.
4	BITTERCHERRY (PRUNUS EMARGINATA)	8"	GOOD CONDITION AND HEALTH.
5	BITTERCHERRY	8"	GOOD CONDITION AND HEALTH.
6	BITTERCHERRY	8"	GOOD CONDITION AND HEALTH.
7	EVERGREEN MAGNOLIA (MAGNOLIA GRANDIF LORA)	12"	POOR CONDITION, CROWN DIEBACK.
8	KOREAN DOGWOOD (CORNUS KOUSA)	6"	GOOD CONDITION AND HEALTH.
9	ORNAMENTAL PEAR (PYRUS SPECIES)	6"	GOOD CONDITION AND HEALTH.
10	GRAND FIR (ABIES GRANDIS)	28"	GOOD CONDITION AND HEALTH.
11	GIANT SEQUOIA (SEQUOIADENDRON GIGANTEUM)	40"	GOOD CONDITION AND HEALTH.
12	RED OAK (QUERCUS RUBRA)	20"	GOOD CONDITION AND HEALTH.
13	WHITE PINE (PINUS MONTICOLA)	20"	GOOD CONDITION AND HEALTH. IVY.
14	WESTERN RED CEDAR (THUJA PLICATA)	16"	GOOD CONDITION AND HEALTH.
15	GRAND FIR	18"	GOOD CONDITION AND HEALTH.
16	DOUGLAS FIR	16"	POOR CONDITION. TERMINAL FAILURE.
17	BIG-LEAF MAPLE (ACER MACROPHYLLUM)	18"	GOOD CONDITION AND HEALTH.
18	BIG-LEAF MAPLE	10"	GOOD CONDITION AND HEALTH.
19	BIG-LEAF MAPLE	12"	GOOD CONDITION AND HEALTH.
20	WILLOW (SALIX SPECIES)	10"	GOOD CONDITION AND HEALTH.
21	DOUGLAS FIR	38"	GOOD CONDITION AND HEALTH.
22	BIG-LEAF MAPLE	MT 16"	POOR CONDITION, TRUNK DECAY.
23	BIG-LEAF MAPLE	22"	POOR CONDITION, TRUNK DECAY.
24	BIG-LEAF MAPLE	24"	GOOD CONDITION AND HEALTH.
25	WESTERN RED CEDAR	8"	GOOD CONDITION AND HEALTH.
26	BIG-LEAF MAPLE	20"	POOR CONDITION, TRUNK DECAY.
27	BIG-LEAF MAPLE	12"	GOOD CONDITION AND HEALTH.
28	BIG-LEAF MAPLE	24"	GOOD CONDITION AND HEALTH.
29	BIG-LEAF MAPLE	18"	GOOD CONDITION AND HEALTH.
30	DOUGLAS FIR	40"	GOOD CONDITION AND HEALTH.
31	BIG-LEAF MAPLE	18"	GOOD CONDITION AND HEALTH.
32	BIG-LEAF MAPLE	18"	GOOD CONDITION AND HEALTH.
33	BIG-LEAF MAPLE	MT 22"	GOOD CONDITION AND HEALTH.
34	DOUGLAS FIR	48"	GOOD CONDITION AND HEALTH.
35	BIG-LEAF MAPLE	8"	GOOD CONDITION AND HEALTH.
36	BIG-LEAF MAPLE	8"	POOR CONDITION, TRUNK DECAY.
37	BLACK COTTONWOOD (POPULUS TRICHOCARPA)	12"	GOOD CONDITION AND HEALTH.
38	BIG-LEAF MAPLE	6"	GOOD CONDITION AND HEALTH.
39	BIG-LEAF MAPLE	8"	GOOD CONDITION AND HEALTH.
40	DOUGLAS FIR	36"	GOOD CONDITION AND HEALTH.
42	BLACK COTTONWOOD	16"	GOOD CONDITION AND HEALTH.
43	BLACK COTTONWOOD	34"	GOOD CONDITION AND HEALTH.
44	BLACK COTTONWOOD	18"	GOOD CONDITION AND HEALTH.
45	BIG-LEAF MAPLE	18"	GOOD CONDITION AND HEALTH.
46	BIG-LEAF MAPLE	6"	GOOD CONDITION AND HEALTH.
47	BIG-LEAF MAPLE	10"	GOOD CONDITION AND HEALTH.
48	BIG-LEAF MAPLE	18"	GOOD CONDITION AND HEALTH.
49	BLACK COTTONWOOD	54"	GOOD CONDITION AND HEALTH.
50	DOUGLAS FIR	52"	GOOD CONDITION AND HEALTH.
51	BIG-LEAF MAPLE	12"	GOOD CONDITION AND HEALTH.
52	BIG-LEAF MAPLE	MT 24"	POOR CONDITION, TRUNK DECAY.
53	BIG-LEAF MAPLE	18"	GOOD CONDITION AND HEALTH.
54	BIG-LEAF MAPLE	42"	POOR CONDITION, IVY, TRUNK DECAY AND CROWN DIEBACK.
55	DOUGLAS FIR	18"	GOOD CONDITION AND HEALTH, IVY UP TRUNK.
56	WESTERN RED CEDAR	14"	GOOD CONDITION AND HEALTH.
57	DOUGLAS FIR	28"	GOOD CONDITION AND HEALTH.
58	WESTERN RED CEDAR	12"	GOOD CONDITION AND HEALTH.
59	BIG-LEAF MAPLE	40"	POOR CONDITION, TRUNK DECAY.
60	BIG-LEAF MAPLE	MT 38"	POOR CONDITION, TRUNK DECAY AND CROWN DIEBACK.
61	ENGLISH LAUREL (PRUNUS LAUROCERASUS)	6"	GOOD CONDITION AND HEALTH.

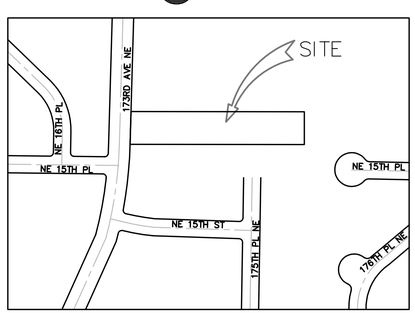
*PLEASE NOTE: CONDITION EVALUATIONS WERE ONLY CONDUCTED VISUALLY, AND NO INVASIVE PROCEDURES WERE UTILIZED. THE CONDITION INFORMATION ONLY APPLIES TO THE CONDITION NOTED ON THE DAY OF THE EVALUATIONS AS TREES ARE DYNAMIC AND THEIR CONDITIONS CAN CHANGE RAPIDLY AS A RESULT OF NATURAL LIFE CHANGES, ENVIRONMENTAL FACTORS AND SITE CHANGES. TREES LISTED AS BEING IN GOOD CONDITION AND HEALTH ARE NOT GUARANTEED TO SURVIVE LONG TERM, AND THERE IS NO GUARANTEE THAT ANY TREES INCLUDED IN THIS INVENTORY WILL NOT FAIL. SHOFFNER CONSULTING AND TONY SHOFFNER CANNOT BE HELD LIABLE FOR THE FAILURE OF TREES AS CONSTRUCTION IMPACTS CAN GREATLY INCREASE THE FAILURE POTENTIAL AND AFFECT THE HEALTH AND STABILITY OF RETAINED TREES.

ALL RETAINED TREES ARE RECOMMENDED TO BE RE-EVALUATED FOLLOWING DEVELOPMENT OF THE SITE TO ASSESS VIABILITY AND ARE RECOMMENDED TO BE MONITORED YEARLY IN THE LATE SUMMER TO EARLY FALL TO IDENTIFY ANY DEVELOPING CONDITIONS OF CONCERN THAT INDICATE A HIGH PROBABILITY OF FAILURE. MONITORING REPORTS ARE TO BE PREPARED FOR DOCUMENTATION.



VICINITY MAP

NOT TO SCALE



LEGAL DESCRIPTION

THE NORTH 120.00 FEET OF THAT PORTION OF THE NORTH HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 25 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON; LYING EASTERLY OF THE COUNTY ROAD CONVEYED TO KING COUNTY BY DEED RECORDED UNDER RECORDING NUMBER 1444856.

TAX PARCEL: 252505-9068-07

PROPERTY ADDRESS: 1460 173RD AVENUE NORTHEAST
BELLEVUE, WA 98008

GEOTECHNICAL REFERENCE

LUI & ASSOCIATES, INC.
CONTACT: JULIAN LUI
19213 KENLAKE PLACE NE
KENMORE, WA 98028

SITE INFORMATION

SITE ADDRESS:	1460 173RD AVENUE NORTHEAST BELLEVUE, WA 98008
TAX PARCEL ID:	252505-9068-07
SURVEYOR/ENGINEER:	ENCOMPASS ENGINEERING & SURVEYING WESTERN WASHINGTON DIVISION 165 JUNIPER STREET ISSAQUAH, WA 98027 PHONE: 425-392-0250
OWNER/APPLICANT	D. MITCHELL HOMES DAVID BLACK PO BOX 805 BOTHELL, WA 98041-0805 PHONE: 425-750-3430
WETLAND/STREAM CONSULTANT	WETLAND RESOURCES CONTACT ANDREA BACHMAN PROJECT 11123
CRITICAL AREA PERMIT COORDINATOR:	CIVIL ENGINEERING SOLUTIONS DUFFY ELLIS, P.E. 3131 WESTERN AVE, STUDIO 316 SEATTLE, WA 98121 PHONE: 206.930.0342
GEOTECHNICAL ENGINEER	LUI & ASSOCIATES, INC. CONTACT: JULIAN LIU 19213 KENLAKE PLACE NE KENMORE, WA 98028
ZONING:	R 3.5
CRITICAL AREAS	STEEP SLOPES TYPE 0 STREAM CATEGORY II WETLANDS

DENSITY CALCULATION

View Point Estates 2-lot Short Plat
Density Calculation

		acres	comments
Gross Site Area	58,391	1.34	
Critical Areas	43,731	1.00	total steep slope critical area and 50-foot buffer combined
Resultant Build Area (sf)	14,660	0.34	
Resultant Build area (ac.)			
Allowable du/acre	3.50		
allowable lots part 1	**1.18**		Net site area calc (multiply 0.34 x 3.5)
Development Factor	0.25		per Critical Area Code
allowable lots part 2	**0.88**		(critical area portion) multiply 1.00 x 3.5 x .25
Total lots allowed	**2.06**		

PLAN NOTES

1. SLOPE BUFFER REDUCTION OF 15-FEET DEEMED OKAY PER SOILS REPORT AND CRITICAL AREA REPORT ADDENDUM BY LUI & ASSOCIATES, INC.
2. TRACT LINES ALONG FINAL BUFFER LINE. SEE PLAT FOR REFERENCE.
3. NGPA SPLIT RAIL FENCE REQUIRED ALONG BUFFER.
5. N/A

N/A

NO.	DATE	BY	REVISIONS

APPLICANT
D. MITCHELL HOMES
DAVID BLACK
PO BOX 805
BOTHELL, WA 98041-0805
PHONE: 425-750-3430

DATE: 10/12/12
JOB# 1193
DRAFTED: DE DESIGN: DE
ELECTRONIC SIGNATURE

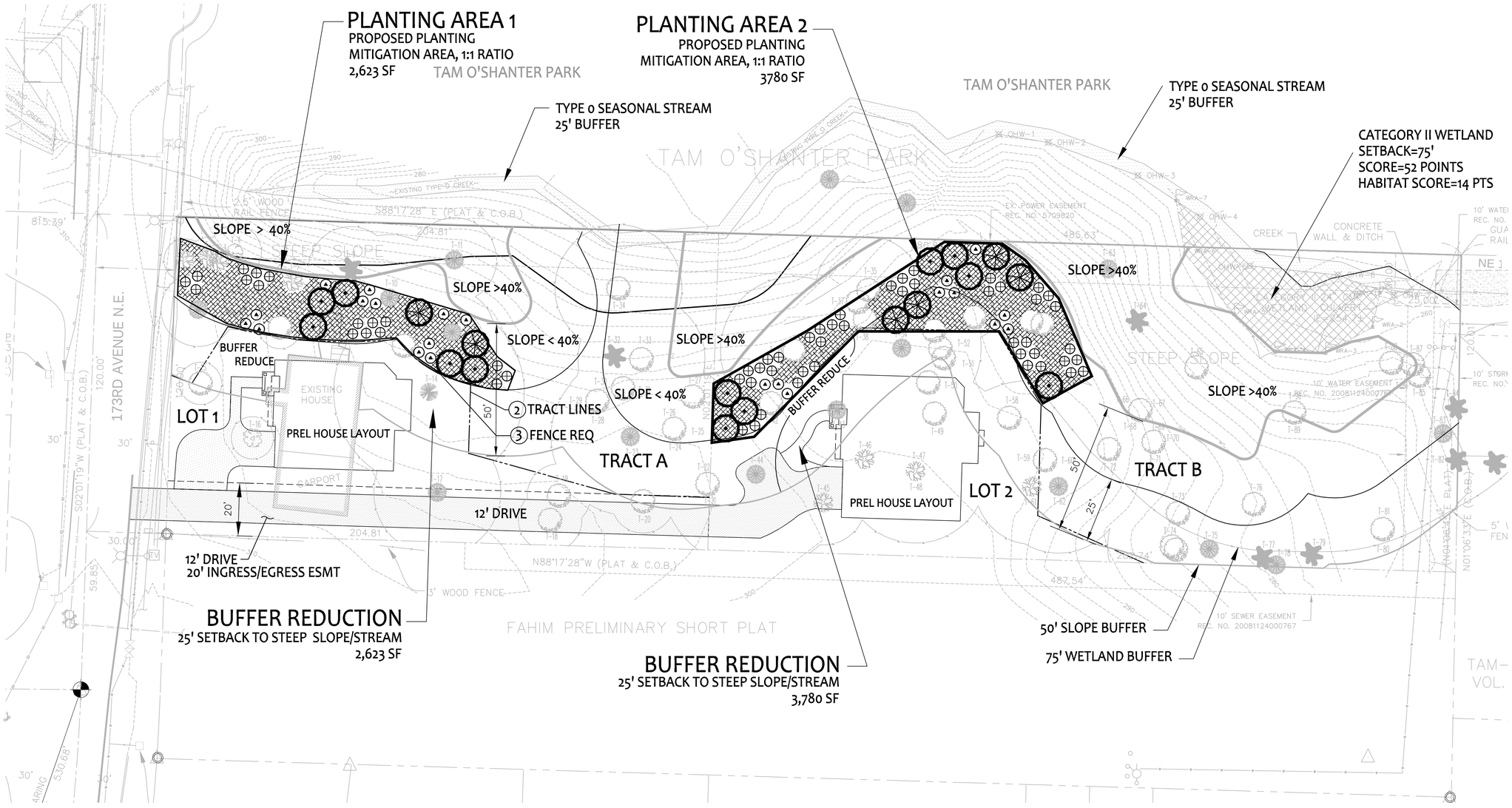
10/12/2012
JEFFREY E. HALL — STATE OF WASHINGTON — 39765 — REGISTERED PROFESSIONAL ENGINEER

CES XX
Civil Engineering Solutions
3131 WESTERN AVE, STUDIO 316 • Seattle, WA 98121
Phone: 206.930.0342 • DUFFY@CESOLUTIONS.US

CRITICAL AREA SITE PLAN
VIEWPOINT ESTATES SHORT PLAT 12-113590 LN
1460 173RD AVENUE NE, BELLEVUE, WA 98008

DRAWING NO: C3.0

APN XX



PLANT SCHEDULE (2900 sf)

TREES

KEY	SCIENTIFIC NAME	COMMON NAME	DENSITY	QTY	SIZE
	EXISTING TREES				
	ALNUS RUBRA	RED ALDER	9' O.C.	12	2 GAL.
	THUJA PLICATA	WESTERN RED CEDAR	9' O.C.	5	2 GAL.

SHRUBS

KEY	SCIENTIFIC NAME	COMMON NAME	DENSITY	QTY	SIZE
	ACER CIRCINATUM	VINE MAPLE	6' O.C.	59	1 GAL.
	CORYLUS CORNUTA	WESTERN HAZELNUT	6' O.C.	22	1 GAL.

GROUNDCOVER

KEY	SCIENTIFIC NAME	COMMON NAME	DENSITY	QTY	SIZE
	POLYSTICUM MUNITUM	SWORD FERN	24" O.C.	1120	1 GAL.

SCALE
20 0 10 20 40
(FEET)
1 INCH = 20 FT

N

NOTES:
1. ALL NEW GROUNDCOVERS SHALL NOT BE PLANTED WITHIN A 5' RADIUS FROM THE TRUNK OF EXISTING AND PROPOSED TREES.
2. PROPOSED MITIGATION AREAS CONSIST OF 2 MAIN PLANTING AREAS ACCOUNTING FOR A TOTAL OF 6,403, SF PER THE 1:1 MITIGATION REQUIREMENT.

NO.	DATE	BY	REVISIONS

APPLICANT
D. MITCHELL HOMES
DAVID BLACK
PO BOX 805
BOTHELL, WA 98041-0805
PHONE: 425-750-3430

DATE: 10/12/12
JOB# 1193
DRAFTED: DESIGN:
ELECTRONIC SIGNATURE

FAZIO ASSOCIATES LLC
LANDSCAPE ARCHITECTS
3131 Western Avenue, Suite 316
Seattle, WA 98121
T: 206-774-9490 F: 206-774-9488
www.faziosassociates.com

PRELIMINARY MITIGATION PLAN

VIEWPOINT ESTATES SHORT PLAT 12-113590 LN
1460 173RD AVENUE NE, BELLEVUE, WA 98008

DRAWING NO:

APN XX